Procedure for the Disinfection of Private Wells by Chlorination

1. **Remove well cover, if possible the pumping system should remain functional. The amount of chlorine used in disinfection depends on the volume of water in the well.**

2. **For a drilled well, determine amount of chlorine liquid or compound to be used based on the amount of water in the well by multiplying the gallons per feet by the number of feet of water in the well see Table 1. (Feet of water x gal. per ft.= amt. of water).**

Properly Constructed Well

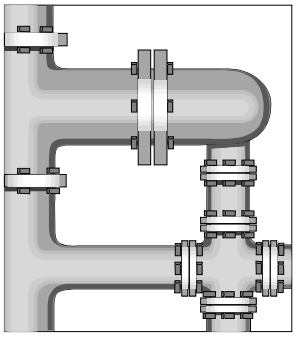
3. **For a dug well, determine the diameter of the well and how deep the water is in the well. Then locate your diameter on the dug well in Table 2. Multiply the depth of water in feet by the corresponding amount of chlorine to be used for your diameter. (Multiply the depth x amount of chlorine per ft = amt of chlorine to add)**

Improperly constructed well is not appropriate for potable water.

4. **If your well is greater than 200 ft. from the point of use, some additional volume should be added. The volume of the hot water heater and the plumbing involved should be considered and more chlorine should be added for heavy concentrations of bacteria.**

5. **To minimize corrosion of metal casings or pump parts from chlorine, add the total amount of chlorine used to about ten gallons of water, then pour this water into the top of the well. Caution: hot water heaters, water softeners, water purifiers and pressure tanks may be damaged by strong chlorine solutions. The manufacturer should be contacted to provide the information needed about the disinfection of these apparatuses. Remove or bypass carbon filters these may also be sources of contamination.**

6. **Re-circulate water, by connecting one or more hoses from faucets on the discharge side of the pressure tank to the top of the well casing. Start the pump and let it circulate for 15 minutes.**



7. **Open each faucet or water outlet including hot and cold taps in the system until a chlorine smell or taste appears. Remember, that the hot water will take longer than the cold because the hot water tank has a larger volume of water. If the chlorine smell is not strong, more chlorine should be added. Close faucets and reseal the top of the well.**

8. **Some wells are constructed so that it is not possible to install a positive well seal such as a dug well. These wells can be reconstructed and cased or a continuous chlorination system can be installed which will kill the unwanted bacteria.**

9. **Surge water in the well and washing the inside of the casing with**

the re-circulated water from a garden hose (surging is done by turning the well on and off). For the best results, turn the well pump on for 30 seconds and off for 30 seconds then on for 1 minute and off for 1 minute continue doubling that time until a 16 minute cycle is achieved.

10. **Let the system stand several hours, preferably overnight. After standing, operate pump, surge again the discharging water from all outlets until all chlorine odor and taste disappears. Note that discharging large amounts of chlorinated water into a septic tank may kill the needed microorganisms in the septic system. (Small amounts of chlorinated water contained in the plumbing of the house should not effect the septic tank).**

11. **This water should not be discharged onto an area where damage will occur to property, vegetation, or naturally occurring streams or waterways.**

12. **If well continues to be contaminated after first application a second treatment may be needed with a double dose of chlorination, and check for any cross-contamination (such as a leaking toilet or hose link, or leak in a sink). If a third treatment is needed, it is recommended to you to contact a Kansas Licensed Water Well Contractor**.

Table 1

Drilled Well

Diameter of drilled well in inches	Gallons per ft.
1	0.041
2	0.163
3	0.37
4	0.65
5	1.0
6	1.5
8	2.6
10	4.1
12	6.0

For each 100 gallons of water in well, use 3 cups of laundry bleach or 2 ounces of hypochlorite granules.

Table 2

Dug Wells

Diameter of dug well in feet	Cups of Laundry Bleach to use per ft of water	Ounces of Hypochlorite Granules per ft of water
3	1.5	1
4	3.0	2
5	4.5	3
6	6.0	4
7	9.0	6
8	12.0	8
10	18.0	12

For each 100 gallons of water in well, use 3 cups of laundry bleach or 2 ounces of hypochlorite granules.

Reference:

Driscoll, F.G., Groundwater and Wells, 1989 Second Edition, Johnson Filtration Systems, Inc., St. Paul, Minnesota 55112

Kansas Department of Health, Bureau of Water, Geology Section telephone numbers 785-296-5522 or 785-296-5560